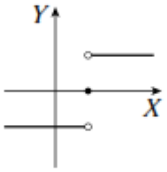
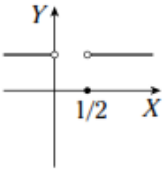
FULL PRÁCTICA - ÁLGEBRA

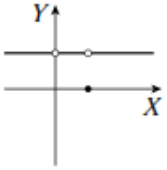
CAPÍTULO: FUNCIONES
TEMA: FUNCIONES ESPECIALES
PRODUCTO: UNI INTERMEDIO
PROFESOR: FREDDY AVALOS C.

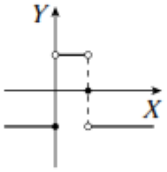
1. Esboce la gráfica de la función

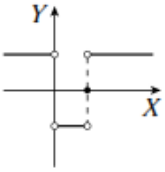
$$f_{(x)} = \operatorname{sgn}\left(\frac{2x-1}{x}\right)$$

A) 

B) 

C) 

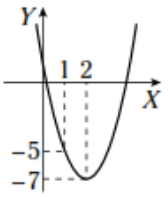
D) 

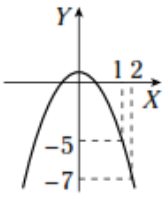
E) 

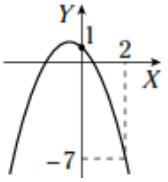
2. Indique la pendiente de la función lineal $f: \mathbb{R} \to \mathbb{R}$, tal que $f_{(2)}=3$; $f_{(3)}=2f_{(4)}$.

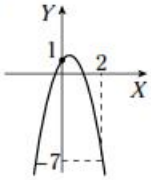
A) 2 B) −1 C) 1
D) −2 E) 3/2

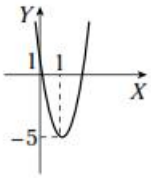
3. Determine la gráfica de $A_{(x)}=ax^2+bx+c$ si se sabe que pasa por (0; 1), (2; −7) y (1; −5).

A) 

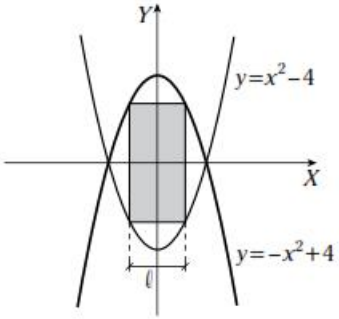
B) 

C) 

D) 

E) 

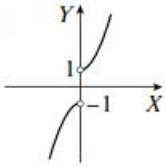
4. Dadas las gráficas de funciones cuadráticas, determine el área sombreada en función de ℓ.

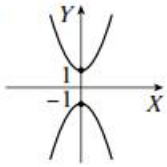


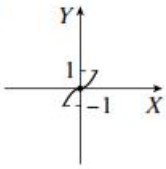
A) $\frac{\ell}{2}(\ell^2-16)$ B) $\frac{\ell}{3}(\ell^2-8)$ C) $\frac{\ell}{2}(\ell^2-8)$
D) $\frac{\ell}{2}(16-\ell^2)$ E) $\frac{\ell}{4}(\ell^2-16)$

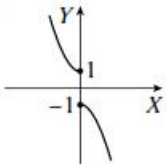
5. Indique la gráfica más aproximada para la función f de regla de correspondencia.

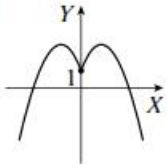
$$f_{(x)} = \frac{|x|^3+|x|}{x}$$

A) 

B) 

C) 

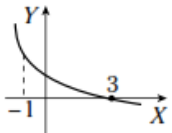
D) 

E) 

6. Calcule el área comprendida entre las gráficas de las funciones
$f_{(x)}=|x-3|$ y $g_{(x)}=5-|x-4|$

A) 15 u^2 B) 18 u^2 C) 20 u^2
D) 16 u^2 E) 12 u^2

7. Se sabe que $f_{(x)}=a-\sqrt{x+b}$ es una función, tal que $f_{(0)}=1$ y $f_{(3)}=0$. Esboce su gráfica.

A)


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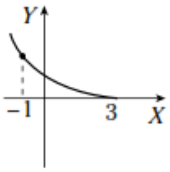
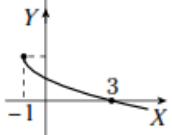
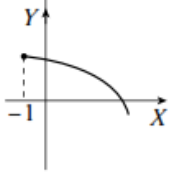


C)


D)


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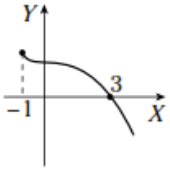
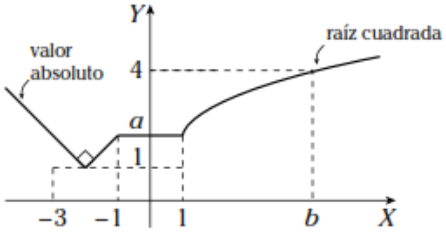


8. Sea f una función cuya gráfica se muestra a continuación.

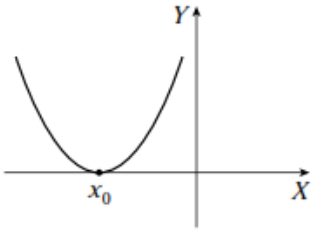


Calcule $a+b$.

A) 7 B) 9 C) 11
D) 13 E) 15

9. Si $f_{(x)}=ax^2-2ax+3$ de raíces x_1, x_2 y $x_1<1<x_2$, halle los valores de a.

10. Sea $f_{(x)}=(a-2)x^2+ax+a$ una función cuya representación gráfica es la siguiente.



Indique el valor de $(3a+x_0)$.

A) 2 B) 4 C) 6
D) 8 E) 10

A) $\langle -\infty; 3]$ B) $\langle -\infty; 2]$ C) $\langle -\infty; 1]$
D) $\langle -\infty; 0\rangle \cup \langle 3; +\infty\rangle$ E) $\langle 0; 3\rangle$